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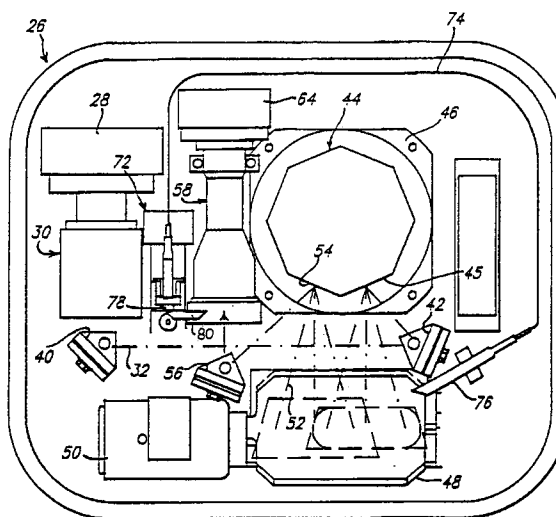
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**30.09.92 Bulletin 92/40**(71) Applicant: **PERCEPTRON, INC.**  
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**Raleigh, Essex SS 6 8EL(GB)**(74) Representative: **Witte, Alexander, Dr.-Ing. et al**  
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**W-7000 Stuttgart 1(DE)**(54) **Lidar scanning system.**

(57) A LIDAR scanning system has a rotating multifaceted polygon mirror (44) for transmitting modulated light (32) from one of its facets (45) to a surface. Diffuse light (52) reflected off said surface is received by another facet (54) of the polygon mirror (44) and reflected to a photo detector (64). The phase difference between the transmitted and received light (32, 52) is then used to compute the range of the surface from the scanning system. The intensity of the returned light is used to create a gray scale image of the surface. The use of separate optical paths for the transmitted (32) and returned (52) light, and a small scanned field of view results in an improved signal-to-noise ratio.

**FIG. 4.****EP 0 448 111 A3**



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## EUROPEAN SEARCH REPORT

Application Number

EP 91 10 4503

DOCUMENTS CONSIDERED TO BE RELEVANT			
Category	Citation of document with indication, where appropriate, of relevant passages	Relevant to claim	CLASSIFICATION OF THE APPLICATION (Int. Cl.5)
A	US-A-3 813 140 (KNOCKEART) * column 3, line 7 - column 6, line 51; figures * ---	1,3,5-9	G01S7/48
A	US-A-3 523 730 (HAYEK ET AL.) * column 2 - column 4; figures * ---	1	
A	US-A-4 627 734 (RIOUX) * abstract; figures * ---	1,6	
A	US-A-4 240 745 (GREEN) * the whole document * -----	1	
			TECHNICAL FIELDS SEARCHED (Int. Cl.5)
			G01S
The present search report has been drawn up for all claims			
Place of search THE HAGUE		Date of completion of the search 05 AUGUST 1992	Examiner DEVINE J. J.
<b>CATEGORY OF CITED DOCUMENTS</b> X : particularly relevant if taken alone Y : particularly relevant if combined with another document of the same category A : technological background O : non-written disclosure P : intermediate document T : theory or principle underlying the invention E : earlier patent document, but published on, or after the filing date D : document cited in the application L : document cited for other reasons & : member of the same patent family, corresponding document			